Fully-Funded PhD Position on "Triassic Reservoir Quality and Geostorage Potential in the Irish Sea Basins" at the **School of Earth Sciences, University College Dublin (UCD)** and **iCRAG (SFI Research Centre in Applied Geosciences)** in Ireland

We are seeking a highly motivated PhD student to join the School of Earth Sciences at University College Dublin (UCD) and iCRAG to investigate the **controls on Triassic reservoir quality in the Irish Sea basins and its impact on subsurface geostorage and geothermal applications.**

iCRAG (SFI Research Centre in Applied Geosciences) is a world leading SFI (Science Foundation Ireland) Research Centre hosted by UCD. It comprises 150 researchers across eight universities and institutions. iCRAG is supported by Science Foundation Ireland, Geological Survey Ireland and industry partners and aims to create solutions for a sustainable society including:

- Sustainable discovery of energy resources and raw materials required for decarbonisation.
- Securing and protecting groundwater and marine resources.
- Protecting society from Earth's hazards such as flooding and landslides.

This project sits in iCRAG's Earth Resources Research Challenge as part of a targeted project addressing the Energy Transition.

Project Summary "Triassic Reservoir Quality and Geostorage Potential in the Irish Sea Basins"

A fundamental requirement for geostorage and geothermal projects is the presence of a permeable reservoir with sufficient storage capacity into which fluids can be injected or produced at commercial timescales. One of the geological challenges onshore Republic of Ireland is the paucity of well-developed primary porosity-permeability reservoir systems in the subsurface. However, permeable reservoirs are preserved within Mesozoic successions in the Irish offshore basins and onshore Northern Ireland and hence these are the areas where the primary geostorage potential resides.

The candidate will be working with Dr Kara English (UCD) and Prof Peter Haughton (UCD) in the Sustainable Geoenergy Research Group to investigate the controls on Triassic reservoir quality in the Kish Bank Basin (offshore Dublin) and analogous basins in Northern Ireland and the UK to evaluate the Triassic interval and its suitability for geostorage and geothermal energy.

Project aims:

(i) Characterize Triassic reservoir heterogeneity using regional facies mapping and paleogeography, and analysis of Triassic successions at outcrop and in the subsurface in Northern Ireland, Ireland and the UK (core analysis, seismic interpretation, petrophysics).

(ii) Examine the main controls on reservoir quality through petrography, basin modelling and diagenetic forward modelling with Touchstone software (Geocosm©).

(iii) Evaluate the suitability of the Triassic of the Kish Bank Basin for geostorage and geothermal applications.

Required Qualifications

The applicant must have:

- 2.1 or better undergraduate degree, and/or a Masters in geology, geoscience, Earth Science or a related discipline.
- Strong interest in integrated multi-scale analyses from basin scale to pore scale.
- Well organised, with excellent written and oral communication skills.
- Ability to work well independently and conduct fieldwork.
- Strong self-motivation and 'willing to learn' attitude.

Desirable Qualifications

- Familiar with seismic data visualisation and interpretation software, e.g. Petrel/Kingdom
- Experience in any of the following: sedimentology, petrography, petrophysics, basin modelling, geothermal energy.

Entry Requirements

In addition to the requirements specific to the position, the minimum entry requirements for the PhD degree at UCD are:

English Language Proficiency

Non-native English speakers require at least:

a. **TOEFL:** A minimum score of 90 is required in the Internet-based TOEFL (iBT) with no less than 21 in writing and at least 19 in every other section.

Or

b. **IELTS:** An average score of 6.5 over all components and a minimum of 6.0 in each band on the Academic Version.

Or

c. **equivalent** (further details on the equivalence of tests are available here).

The Offer

The position includes tuition fees, €18,500 annual stipend for 4 years, access to equipment, a budget for new analyses and fieldwork, and an opportunity for paid teaching assistant duties. Training will be provided in *Touchstone©* software and there is funding to support conference attendance. Graduate students have access to UCD Sport & Fitness including a gym and Olympic Swimming Pool.

To Apply

Prepare a single PDF file consisting of:

1. Resume/Curriculum Vitae (CV) (max 2 pages), including:

   a. Education History;

   b. Relevant skill sets and;

   c. Research projects/publications.

2. A cover letter (1-page max) including a description of the applicant's research interests and reasons for applying for the position. The Cover letter must clearly indicate how the applicant's profile and skills fit the requirements of this PhD position.

3. Scanned copies of relevant academic transcripts and English language certificates.

4. Contact information for two referees.

Shortlisted applicants will be contacted to arrange an **online** interview.

The application documents are to be submitted to kara.english@ucd.ie**.**

The **deadline for applications is August 19th, 2022 at 17:00pm, Dublin, Ireland time**. The candidate will be expected start between Sept - Dec 2022.

Please direct any informal enquiries regarding this role to Dr Kara English (kara.english@ucd.ie) and include "Triassic RQ PhD-1" in the subject line.

Equity Diversity and Inclusion

UCD is committed to creating an inclusive environment where diversity is celebrated, and everyone is afforded equity of opportunity. To that end, the university adheres to a range of equity, diversity and inclusion policies. We encourage applicants to consult those policies here https://www.ucd.ie/equality/. We welcome applications from everyone, including those who identify with any of the protected characteristics that are set out in our Equity, Diversity and Inclusion policy.

Useful Links:

1. [UCD Graduate Studies](#)
2. PhD LIFECYCLE: The complete PhD journey at UCD
3. Study at UCD